ATOMUS group

IN-HOUSE MANUFACTURING

Cheese ripening chambers

What they are for, how they are built and how they work

We design and manufacture all our **climate control equipment in-house.**

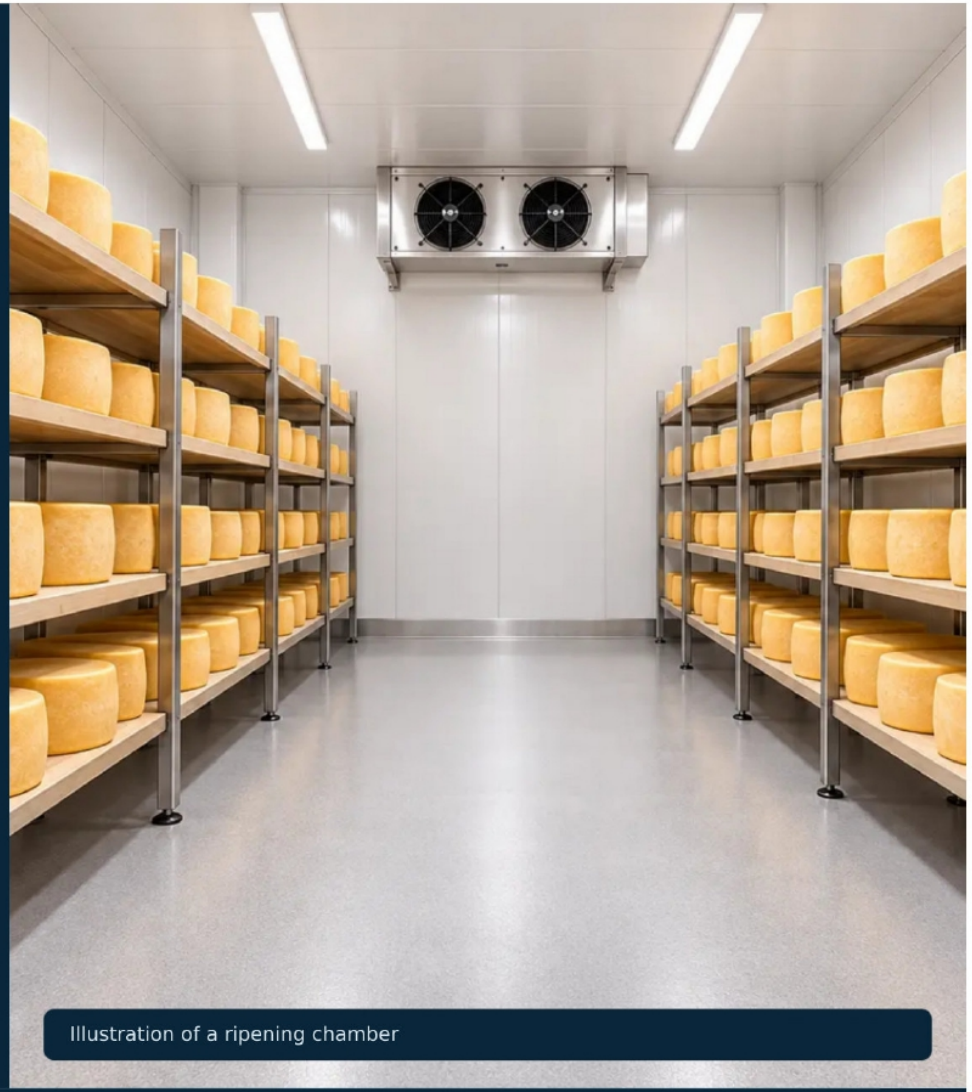


Illustration of a ripening chamber

Who needs a ripening chamber?

We match the chamber design and climate control system to the way you make and handle cheese.

Dairy plants

For production batches, we allow for the load, delivery schedule and your dairy technologist’s requirements.

Artisan cheesemakers

We plan for your cheeses and ripening stages. Where varieties need different conditions, we specify separate chambers.

Farmstead dairies

For cheese made from your own milk, we start with production volume, available space and utilities.

Cheese shops

For shops that finish ripening cheese on site. We select storage for finished cheeses separately.

Restaurants

For in-house ripening, we consider your cheese selection, small batches and available space.

Home cheesemakers

For small batches and your own recipes, we can discuss a compact chamber that fits your load and space.

Already have a chamber? To plan a climate control upgrade, send a photo of the equipment or its nameplate and describe the problem.

The cheese ripening environment

The chamber maintains the conditions your cheesemaking process requires at each stage of ripening.

01

Temperature

Cooling and heating bring the chamber to the required temperature.

02

Humidity

The system adds or removes moisture to meet the requirements of the ripening stage.

03

Air movement

Air is distributed between the racks, and the air exchange rate can be adjusted.

How ripening differs from cold storage

A standard cold room primarily controls storage temperature. A ripening chamber also controls humidity and airflow, which help the cheese develop its flavour, aroma and texture.

Your dairy technologist sets the conditions. Results also depend on raw materials, starter cultures and care during ripening.

Three ways to build a chamber

We can build an enclosure inside your building, fit out an existing room or supply a standalone module.



Insulated panel chamber

An insulated enclosure inside a building, sized for the cheese load, racks and aisles. Panels, doors, floors and junctions are specified for each project.



Existing room

We check insulation, the vapour barrier, airtightness, washable finishes, flooring, drainage and access for servicing.



Standalone module

We agree the site, structure, transport dimensions, utility connections and scope of supply with you. Each module is configured for the project.

Illustrative configurations. The final design is agreed for each project.

Chamber components

We specify the enclosure, fittings and climate control system separately.

Walls and ceiling	Insulated sandwich panels with metal facings, or suitably prepared existing walls and ceiling. Panel thickness, core material and finish are specified for each project.
Insulated door	A tight-sealing door. The opening size and door design allow for racks, trolleys, washdown and operating conditions.
Floor and drainage	Floor load capacity, waterproofing, insulation, falls and drainage are specified for the site. We provide for condensate drainage from the equipment.
Joints and penetrations	Sealed joints and service penetrations protect against moisture ingress and unwanted heat gain.
Racks and shelves	Stainless steel, food-grade plastic or, where the cheesemaking process calls for it, wood. We allow for aisles and airflow clearances. Ekopolis fittings are supplied separately.
Climate control and automation	Air coolers, heating, humidification, air treatment, sensors and a control panel. We manufacture the climate control equipment in-house.

We select materials and finishes for humid conditions and your washdown procedure.

How the control system works

The controller uses sensor readings and the setpoints specified by your dairy technologist to coordinate the equipment.

01

Measure

Sensors measure temperature and relative humidity inside the chamber.

02

Control

Readings are checked against setpoints, with tolerances, delays and safeguards applied.

03

Maintain conditions

The system distributes conditioned air between the racks.

Dehumidification with reheat



Moisture condenses on the cold coil and drains away. Reheating brings the air temperature back up after cooling. Heating alone does not remove water from the air.

Cooling and heating

Two coordinated circuits maintain temperature and help control humidity.

HEAT REMOVAL

Cooling

Refrigerant circuit
Chilled-water or glycol air cooler

A chiller can supply chilled water or a propylene glycol solution. We select the cooling system for the heat load and design temperatures.

HEAT INPUT

Heating

Electric heating elements
Hot-water heat exchanger

We consider the available heat source, required capacity, controls and safeguards. During dehumidification, heating is coordinated with cooling.

We size the equipment for the cheese load, the room and the operating conditions.

Humidity control

The system adds moisture when humidity is below the setpoint and removes excess moisture when it is above.

Two-fluid humidification

Water and compressed air

Compressed air atomises the water.

We specify capacity, water supply and treatment, compressed air requirements and servicing for the selected unit.

Ultrasonic humidification

Fine mist

An ultrasonic transducer turns water into a fine mist.

We consider capacity, water quality, unit placement and access for cleaning and maintenance.

Dehumidification with reheat

Cooling and reheating

Excess moisture condenses and drains away.

The cooling coil and heater work together. Performance depends on temperature, humidity and the equipment selected.

We select the humidification method and capacity to suit your cheesemaking process and available utilities.

Air circulation, filtration and treatment

We select the equipment with your dairy technologist, taking the cheese and its ripening cultures into account.

01 **Ventilation and filtration**

Recirculation distributes air throughout the chamber. Where required, supply and exhaust ventilation provide air exchange. We select filters and ductwork with access for servicing.

02 **Photocatalytic air purification**

An optional module uses photocatalytic filters. We review compatibility with the cheese and its cultures, installation location and servicing requirements with your dairy technologist.

03 **Ozone treatment**

A separate, interlocked treatment cycle runs only when the chamber is unoccupied. The agreed procedure specifies compatibility with the cheese and cultures, ventilation after treatment and conditions for re-entry.

Ozone treatment is a separate cycle from routine ripening. Each chamber is configured for the project.

Operating modes and controls

The controller uses sensor readings and setpoints to operate the equipment as a single system.

Constant conditions

The system maintains the temperature and humidity setpoints for the selected ripening stage.

Multi-stage programme

If the controller supports it, a programme changes setpoints and stage durations in sequence according to the cheesemaking process.

Service mode

Components can be checked during commissioning and maintenance with the specified safeguards active.

Sanitation cycle

A separate cycle follows the approved sanitation procedure, including the requirements for re-entry after completion.

Depending on the configuration, options include multi-stage programmes, data logging, trend charts and remote access.

Your dairy technologist sets the temperature, humidity and stage duration. Each cheese variety needs its own ripening schedule.

Choosing a chamber for your cheese

To get started, send your contact details and a short description of your project.

01

Room and utilities

Room dimensions, wall and ceiling construction, and utility connections. Include photos or a floor plan if available.

02

Cheese and batch loads

Cheese varieties, the total weight in the chamber at any one time, and the schedule for incoming batches.

03

What you need

A new chamber, an upgrade to an existing one or individual climate control components.

Having trouble keeping conditions stable?

Send a photo of the equipment or its nameplate, the chamber dimensions and a description of the problem. We will assess which components or settings need attention.

Our proposal itemises the enclosure, climate control and automation, fittings, and work to be carried out.

ATOMUS group

Climate control equipment made by Atomus Group

We design and manufacture our own equipment.
We select the system to suit your cheese, your room and your ripening process.

Tell us about your project

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